THIS IS ONE VOLUME OF A SIX VOLUME SET
WHICH INCLUDES:

VOLUME I: FIELD OPERATIONS (FO)
VOLUME II: GROUNDWATER (GW)
VOLUME III: GEOTECHNICAL (GT)
VOLUME IV: SURFACE WATER (SW)
VOLUME V: ECOLOGY (EE)
VOLUME VI: AIR (AP)

EG&G
SUPERSEDED

TABLE OF CONTENTS
FOR VOLUME III: GEOTECHNICAL

Procedure No.	Title	Rev. No.	Effective Date
GT.01	Logging Alluvial and Bedrock Material	2	05/12/92
DCN 92.01	Specialized Logging Form	2	EXPIRED
DCN 93.01	Logging	2	EXPIRED
DCN 93.02	Logging Deliverables Standard Practices	2	EXPIRED
DCN 93.03	Core Log QC Change	2	06/18/93
DCN 93.04	Lithologic Descriptions	2	07/15/93
DCN 93.05	Logging with Well Points	2	07/28/93
DCN 93.06	SVE Core Description	2	08/20/93
GT.02	Drilling and Sampling Using Hollow Stem Auger Techniques	2	05/12/92
DCN 92.04	Prevention of Down Hole Contamination EXTENDED	2	7/28/93
93-DMR-000955	Form GT.2A Modification	2	01/10/94
93-DMR-000960	QC Sample Collection Modification	2	01/10/94
94-DMR-000382	Approval Process and Sampling Collection Modification	2	03/28/94
94-DMR-000405	Sample Liner Taping Changes	2	03/28/94

DOCUMENT CLASSIFICATION REVIEW WAIVER
PER R.B. HOFFMAN, CLASSIFICATION OFFICE
JUNE 11, 1991

ADMIN RECORD

Procedure No.	Title	Rev. No.	Effective Date
GT.03	Isolating Bedrock from Alluvium with Grouted Surface Casing	2	05/12/92
DCN 93.01	Data Quality Objectives for PLF Investigations	2	EXPIRED
93-DMR-000956	Form GT.3A Modification	2	01/10/94
•94-DMR-000418	Advanced Notification to the State of Colorado	2	04/22/94
GT.04	Rotary Drilling and Rock Coring	2	05/12/92
93-DMR-000957	FORM GT.4A Modification	2	01/10/94
•94-DMR-000419	Advanced Notification to the State of Colorado	2	04/22/94
GT.05	Plugging and Abandonment of Boreholes	2	05/12/92
93-DMR-000961	Form GT.5A Modification	2	01/10/94
GT.06	Monitoring Wells and Piezometer Installation	2	05/12/92
DCN 93.02	Well Point Installation	2	EXPIRED
DCN 93.03	Piezometer Logging Modification	2	EXPIRED
DCN 93.04	Wells - 5.3.2.2 Revised	2	EXPIRED
DCN 93.05	Temperatures - 5.3.2.3 Revised	2	EXPIRED
DCN 93.06	Provide Numbers to Reference Corresponding Items	2	EXPIRED
DCN 93.07	DCN 93.01 Modification	2	EXPIRED
DCN 93.08	PVC Schedule Change	2	05/10/93
DCN 93.09	Change to PVC Casing Thickness	2	05/11/93
DCN 93.10	SVE Bentonite Chips	2	08/20/93
DCN 93.11	SVE Well Specifications	2	08/20/93
DCN 93.12	Riser Installation	2	09/02/93
DCN 93.13	Cancel DCN 93.11, Item #! for OU 2 SVE Study	2	10/06/93
DCN 93.14	Revision of Figure GT.6-3	2	10/06/93
GT.07	Logging and Sampling of Test Pits and Trenches	2	05/12/92
94-DMR-000276	Section GT.07 and form Modifications	2	02/28/94
GT.08	4-E42-ER-OPS-GT.08 Surface Soil Sampling	3	01/25/94
94-DMR-000133	Sampling Modifications	3	02/04/94

94-DMR-000229	Editorial Correction GT.08	3	03/14/94

Procedure No.	Title	Rev. No.	Effective Date
GT.09	Soil Gas Sampling and Field Analysis	2	05/12/92
•94-DMR-000431	Calibration Occurrence Clarification	2	04/11/94
GT.10	Borehole Clearing	2	05/12/92
GT.11	Plugging and Abandonment of Wells	2	05/12/92
93-DMR-000962	Form GT.11A Modification	2	01/10/94
GT.15	Geophysical Borehole Logging	2	05/12/92
GT.17	Land Surveying	2	05/12/92
DCN 93.01	Land Surveying Clarification	2	09/02/93
GT.18	Surface Geophysical Surveys	2	05/12/92
DCN 93.01	5.4 Field Procedure Revisions	2	EXPIRED
DCN 93.02	5.5 Time Domain Electromagnetic Metal Detection	2	11/22/93
GT.19	Field Gas Chromatographs	2	05/12/92
GT.20	Procedures for Soil Interstitial Water Sampling and Sampler Installation	2	05/12/92
94-DMR-000297	Section GT.20 and form Modifications	2	02/28/94
GT.21	Cone Penetrometer Testing	1	05/12/92
DCN 93.01	CPT Rods	1	EXPIRED
DCN 93.02	Offsets	1	EXPIRED
GT.24	Approval Process for Construction Activities on or Near Individual Hazardous Substance Sites (IHSSs)	0	05/12/92

DOCUMENT MODIFICATION REQUEST (DMR)

Refer to 1-A01-PPG-001 for Processing Instructions.
Print or Type All Information (Except Signatures)

1. Date	25.
March 17, 1994	DMR. No. 94-DMR- 000418

2. Existing Document Number/Revision	3. New Document Number or Document Number if it is to be changed with this Revision
5-21000-OPS-GT.3/Rev2	NA
4. Originator's Name/Phone/Page/Location	**5. Document Title**
J.A. Paschis/x8644/NA/080	Isolating Bedrock from the Alluvium with Grouted Surface Casing

6. Document Type ☒ Procedure ☐ Other _____

7. Document Modification Type (Check only one)
☐ New ☐ Revision ☒ Intent Change ☐ Nonintent Change ☐ Editorial Correction ☐ Cancellation

8. Item	9. Page	10. Step	11. Proposed Modifications
1	2	2.0	Add the following paragraph after the first paragraph in Section 2.0: If the end-purpose of the drilling is to install and complete a monitoring well, not a piezometer, the Project Manager should refer to SOP GT.6 and other contained related SOPs for further instructions. These procedures specify pre-installation approval for monitoring wells from Environmental Sciences and Engineering, Geosciences Division. Advanced notification of monitoring well installation is necessary for the state of Colorado, Division of Water Resources. Prior to invasive activities, SOP GT.24 requirements should be reviewed and followed to acquire soil disturbance approval from RFP Construction Management.
2	3	4.2	Add the following reference to the list of SOPs: • SOP GT.24, Approval Process for Construction Activities on or Near Individual Hazardous Substance Sites (IHSSs)

12. Justification (Reason for Modification, EJO#, TP#, etc.)

1. Specify the advanced notification of the state of Colorado prior to the installation of monitoring wells.

2. Add required reference.

If modification is for a new procedure or a revision, list concurring disciplines in Block 13, and enter N/A in Blocks 14 and 15. If modification is for any type of change or a cancellation, organizations are listed in Block 13, then Concurror prints, and signs in Block 14, and dates in Block 15.

13. Organization	14. Print and Sign (if applicable)	15. Date (if applicable)
SME	Tim Lovseth	3/18/94
EQS	Mark Brooks (RR)	4-4-94
RPM	Wanda Busby	3/21/94
EOM	Marla Broussard	3/24/94
ETT	Gary Anderson	5 APR 94
SPP	Steve Keith	3/29/94

16. Originator's Supervisor (print/sign/date)
Stephen H. Singer Stephen H. Singer 3/17/94

17. Assigned SME/Phone/Page/Location	18. Cost Center	19. Charge Number	20. Requested Completion Date	21. Effective Date
Tim Lovseth/8706/5134/080	0202	ENV-GT	03/21/94	4-22-94 SUPD

22. Accelerated Review? Yes ☐ No ☒

23. ORC Review
Not required; this nonintent change was processed as an intent change to expedite the DMR process.

24. Responsible Manager (print, sign, date)
Mark E. Levin 4-11-94

REVIEWED FOR CLASSIFICATION/UCNI
BY NA
DATE NA

ISOLATING BEDROCK FROM THE ALLUVIUM WITH GROUTED SURFACE CASING

EG&G ROCKY FLATS PLANT	**Manual:**	**5-21000-OPS**
EMD MANUAL OPERATION SOP	**Procedure No.:**	**GT.3, Rev. 2**
	Page:	**1A of 10**
	Effective Date:	**04/22/94**
Category 2	**Organization:**	**Environmental Management**

94-DMR-000418

LIST OF EFFECTIVE PAGES

Pages	Effective Date	Change Number
1	05/10/93	DCN 93.02
1A	04/22/94	94-DMR-000418
2-3A	04/22/94	94-DMR-000418
3	01/10/94	93-DMR-000956
5	05/10/93	DCN 93.02
5	08/20/93	DCN 93.04
5	02/10/93	DCN 93.01
6-9	05/10/93	DCN 93.02
9-10A	01/10/94	93-DMR-000956
Form GT.3	01/10/94	93-DMR-000957

TOTAL NUMBER OF PAGES (including forms): 17

2.0 PURPOSE AND SCOPE

This standard operating procedure (SOP) describes procedures that will be used at the Rocky Flats Plant (RFP) to install surface casing (where required) grouted into the top of bedrock to isolate the bedrock from the alluvium. The intent of implementing this SOP is to prevent cross-contamination from the alluvium into the bedrock. This may be required for environmental sampling of the bedrock in boreholes and for construction of bedrock monitoring wells. The following items are discussed in this SOP:

- Drilling methods for advancing boreholes
- Surface casing installation materials
- Surface casing installation procedures

If the end-purpose of the drilling is to install and complete a monitoring well, not a piezometer, the Project Manager should refer to SOP GT.6 and other contained related SOPs for further instructions. These procedures specify pre-installation approval for monitoring wells from Environmental Sciences and Engineering, Geosciences Division. Advanced notification of monitoring well installation is necessary for the state of Colorado, Division of Water Resources. Prior to invasive activities, SOP GT.24 requirements should be reviewed and followed to acquire soil disturbance approval from RFP Construction Management.

94-DMR-000418

This SOP describes the field procedures that will be used to install surface casing and document the procedures in order to attain acceptable standards of accuracy, precision, comparability, representativeness, and completeness.

EG&G ROCKY FLATS PLANT	Manual:	5-21000-OPS
EMD MANUAL OPERATION SOP	Procedure No.:	GT.3, Rev. 2
	Page:	3A of 10
	Effective Date:	04/22/94
Category 2	Organization:	Environmental Management

94-DMR-00041P 93-DMR-000952

- SOP GT.1, Logging Alluvial and Bedrock Material
- SOP GT.2, Drilling and Sampling Using Hollow-Stem Auger Techniques
- SOP GT.4, Rotary Drilling and Rock Coring
- SOP GT.10, Borehole Clearing
- SOP FO.14, Field Data Management
- SOP GT.24, Approval Process for Construction Activities on or Near Individual Hazardous Substance Sites (IHSSs)